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Massive Transformative Purpose (MTP) as moderator in the relationship between Culture of Experimentation and Autonomy

Propósito de Transformación Masiva (PTM) como moderador en la relación entre Cultura de Experimentación y Autonomía

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ABSTRACT

The present research seeks to measure the relationship between the culture of experimentation and autonomy and the relationship between both variables when moderated by the organization's massive transformative purpose (MTP). This quantitative and exploratory research was conducted through a questionnaire for decision-makers in 43 medium and large IT companies in Jalisco. The results reveal a significant positive relationship between the culture of experimentation and autonomy, corroborating the first hypothesis of this research. However, according to the analyses to calculate the degree of moderation of the massive transformation purpose variable (moderator variable) to adjust the relationship between the culture of experimentation and autonomy, the results showed that there are no significant relationships, which rejects the second hypothesis of this research.

Keywords: Massive transformative purpose, exponential organizations, culture of experimentation, autonomy, competitiveness.

JEL code: O39

RESUMEN

La presente investigación busca medir la relación que existe entre la cultura de experimentación y la autonomía, así como la relación entre ambas variables cuando se ven moderadas por el propósito de transformación masiva (PTM) de la organización. Esta investigación de tipo cuantitativa y exploratoria se realizó mediante un cuestionario aplicado a tomadores de decisión en 43 empresas medianas y grandes del giro de tecnologías de la información en Jalisco. Los resultados obtenidos revelan que existe una relación positiva significativa entre la cultura de experimentación y la autonomía, corroborando la hipótesis planteada en esta investigación. Sin embargo, de acuerdo con los análisis para calcular el grado de moderación de la variable propósito de transformación masiva (variable moderadora) para ajustar la relación entre cultura de experimentación y autonomía, los resultados arrojaron que no existen relaciones significativas, con la cual se rechaza la segunda hipótesis de este estudio.

Palabras clave: Propósito de transformación masiva, organizaciones exponenciales, cultura de experimentación, autonomía, competitividad.

Código JEL: O39

INTRODUCTION

The role of knowledge management, human resources management, and innovative performance within textile firms enhance the organization's performance. The textile industry has become a critical component of the global economy and daily life. Consequently, an assessment of input utilization that considers innovation, technology, and efficacy is imperative (Haider & Anees, 2024; Sanchez et al., 2019).

This research addresses the topic of massive transformative purpose (MTP), the guiding axis of exponential organizations (ExOs), which can be defined as the greater intention to which the company aspires and is distinguished from the motto or mission of the organization for being highly ambitious; they aim to capture the hearts, minds, imagination and ambitions of those inside and especially outside the organization (Church, 2024); some seek to transform the planet, others just a sector, but radical transformation is the key (Ismail et al., 2014).

Among the organizations that are considered exponential are companies such as *Uber, Netflix, Tesla, Zoom Video, Airbnb, Waze, Snapchat, BlaBlaCar,* etc., young companies with less than ten years of foundation and that are recognized globally; several of them are even positioned within the 100 most valuable brands in the world according to figures published by Kantar Brandz (2024).

According to experts (Li & Shepherd, 2024; Moro-Visconti, 2024) in innovation, exponential organizations are the present and future of global businesses, operating under a light infrastructure that allows them to adapt quickly to environments of high uncertainty and, at the same time, relying on so-called exponential technologies, they have managed to reduce yesterday's high operating costs. Furthermore, given the relevance of the approach under which these companies operate, even due to the COVID-19 pandemic, several registered significant exponential growth due to the use of technology through digital media, which is critical to their success. It is pertinent to delve deeper into this phenomenon and its dimensions to bring it closer to companies that still operate traditionally.

It should be noted that there is also a close link between exponential organizations and a culture of experimentation, not coincidentally that one of the elements of the ExO model created by Ismail et al. (2014) is indeed experimentation. Furthermore, since the ExO model is closely linked to the *Customer Development* model proposed by Blank (2009), the *Design Thinking* model devised by Brown (2008), and the *Lean Startup* model by Ries (2012), its creators position experimentation as a fundamental part of their innovation models, is that culture of experimentation takes on an essential role in organizations that seek competitiveness in global digital markets. Also, as a result of the literature review, it was

possible to find that autonomy is the common denominator that both phenomena share. Hence, this research aimed to measure the relationship between the culture of experimentation and autonomy and the moderating effects of the massive transformative purpose to adjust the relationship between both variables in medium and large IT enterprises in Jalisco.

THEORETICAL-CONCEPTUAL FRAMEWORK

The Origins of Exponential Organizations

The ExO concept has its roots in the law of exponential growth proposed by Gordon Moore (co-founder of Intel) in 1965, which stated that the number of transistors per square centimeter in an integrated circuit would double each year and that the trend would continue for the next two decades; Ten years later he modified his statement and predicted that the rate would slow, and that transistor density would double approximately every 18 months. This exponential growth rate in transistor density, doubling the capacity of microprocessors every year and a half, is what is considered Moore's Law (Cheang, 2005).

Despite not appearing as a reference in the book Exponential Organizations by Ismail et al. (2014), nor to relate his work as a precursor of the concept of exponential organizations, it is vital to highlight the work of Drucker (1969), who more than 50 years ago was already talking about economic, political, social and cultural changes linked to the emergence of new technologies and the innovation connected to it, as well as new business models that would emerge from technology.

Years later, Kurzweil (1999; 2001) returned to and deepened Moore's law of exponential growth, developing *the Law of Accelerated Returns*, where he stated that the duplication pattern identified by Gordon Moore in integrated circuits applied to any technology. That is, the law includes future technologies far from integrated circuits.

Another theory of innovation that was undoubtedly reviewed to build the concept of exponential organizations is the theory of disruptive innovation by Christensen and Raynor (2003), which describes a process through which smaller companies with fewer resources can challenge with success to leading organizations in the industry, which direct their efforts to improve their products and services for their most profitable clients, ignoring the needs of some market niches. Leading organizations pursuing greater profitability in more demanding segments tend not to respond on time, and this is when new competitors enter the market, delivering the value that clients of established companies require. Conventional customers begin to adopt the new competitor's offerings in volume when disruption occurs (Christensen et al., 2015).

According to Ismail et al. (2019), another theory that was fundamental for the concept construction of exponential organizations and that is used in exponential transformation sprints is the *Customer Development* methodology developed by Blank (2009), in which all the activities related to the creation of customers for an emerging company in its initial stage are outlined. Unlike traditional innovation models that present a linear approach, these are grouped into a series of steps and are designed to carry out several iterations in each step until the desired result is reached (Blank, 2009).

The *Design Thinking* methodology Brown (2008) developed was also a precursor for exponential organizations. This theory is based on designers' sensitivity and methodology to match users' needs with what is technologically feasible and what a commercial strategy can convert into value for customers. According to Brown (2008), the attributes inherent to designers and on which this methodology is based are *empathy, integrative thinking, optimism, experimentalism, and collaboration*.

Design Thinking should be considered a system of overlapping steps that can be repeated rather than an ordered sequence of steps, which means that projects that are born under this scheme can go back through each step of the model more than once as the team refines ideas and explores new directions (Brown & Wyatt, 2010).

The concept of exponential organizations was also nourished by the work of Hagel III et al. (2010) and their theory of the *Power of Attraction*, which arises as a response to the uncertainty of companies, consumers, and markets by leveraging digital infrastructures and the flow of knowledge that allow them to "scale learning" both within the organization and throughout its ecosystem. Derived from this theory and as a methodology to carry out successful institutional change in organizations, Hagel III et al. (2019) developed a new approach for large-scale organizational transformation called *Scaling Edge*, where guidelines are set to continue within the organization to achieve this transformation.

The *Lean Startup* theory proposed by Ries (2011) also served as the basis for building the ExO model. Like the methodologies of Brown (2008) and Blank (2009), the Lean Startup methodology proposes the launch of businesses from learning that is validated through a sequence of steps that begin with the idea of a product or service, in which its impact on the market and acceptance by potential clients is measured; From this feedback, learning is obtained that allows the product to continue developing iteratively, either by increasing the functionalities or establishing a series of changes that will enable its viability. The above allows the creation of a profitable business model without wasting resources (Ries, 2011).

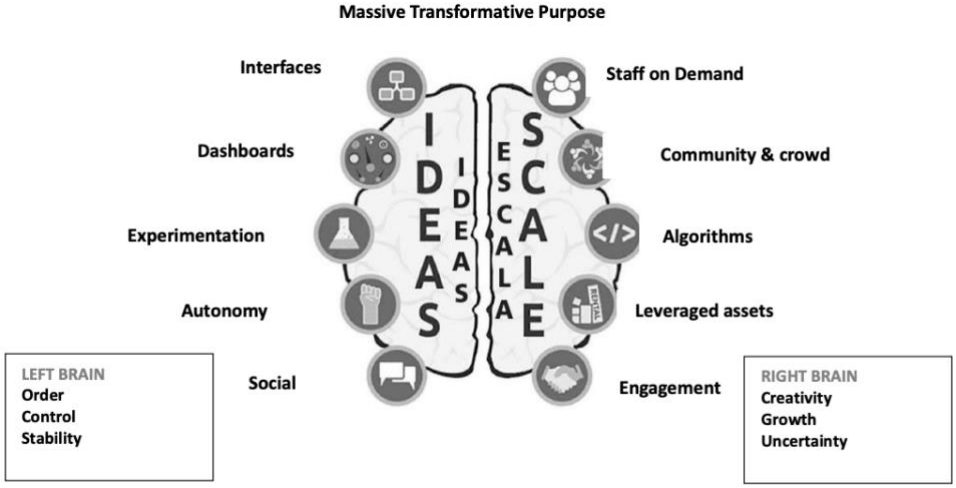
In addition, theories about the future and abundance also served as a source of inspiration for creating the concept of exponential organizations. During the last two decades, humanity has evidenced a technological acceleration unlike anything the world has seen, where exponential progress in artificial intelligence, robotics, infinite computing, ubiquitous broadband networks, digital manufacturing, nanomaterials, and synthetic biology, among many others, will allow more extraordinary advances to be achieved during the next two decades than what has taken place in the last 200 years. (Hellebrand, 2017)

Exponential Organizations

Exponential organizations (ExOs) is a term that defines organizations whose impact or result is disproportionately large, at least ten times greater compared to their peers, due to the implementation of new organizational techniques that take advantage of exponential technologies (Ismail et al. al., 2014). This definition arises from the results of the analysis of the hundred fastest-growing startups in the world, carried out between 2008 and 2014, and how these companies presented accelerated growth in less than six years after starting operations. The significant characteristic of ExOs is that, instead of having a robust payroll or extensive physical facilities, exponential organizations are built on information technologies that take what was once physical or tangible and dematerialize it in the digital world on demand.

Among the characteristics of an ExO (Figure 1) is that they maintain a minimal core of employees and physical facilities, which allows great flexibility while margins rebound. They recruit users and leverage virtual and physical communities for everything from product design to app development. They ride on existing and emerging infrastructures rather than trying to own their own, and they grow at a breakneck pace because they are not focused on taking ownership of their market (Ismail et al., 2014).

Figure 1. Exponential Organizations Model



Source: Ismail et al. (2014).

According to Ismail et al. (2014), the ExO model includes 11 key attributes guided by a massive transformative purpose, which is a very ambitious change goal. As for the internal and external dimensions that come together to achieve exponential growth in the ExO model, the acronym SCALE reflects the five external attributes. The acronym IDEAS is used for the five internal attributes. The meanings of each attribute are described below:

Staff on Demand. Employing personnel on demand involves renting labor based on the company's current needs (Chen & Yang, 2023). The main benefit of using on-demand staff is that it allows agility, encourages learning (with new perspectives), and creates stronger bonds between the core team (Peng & Chen, 2023).

Community and Environment. An organization or company's "community" comprises core team members, alumni (former team members), partners, vendors, customers, users, and fans (Meuser & Smallfield, 2023).

Algorithms refer to tools used to improve and automate a company's resources. Examples of such algorithms are Machine Learning (based on known properties) and Deep Learning (based on neural network technology). These enable fully scalable products and services, leveraged connected devices and sensors, lower error rates, and easy upgrades (Abousaber & Abdalla, 2023).

Leveraged Assets ("non-own" External Assets) refer to renting, sharing, or taking advantage of the assets of others rather than owning things. It is based somewhat on a post-materialist philosophy in which renting assets or tools can be done at a fixed price or as an on-demand service. (Li & You, 2023)

Engagement (Commitment) consists of digital reputation systems, games, and incentives that provide the opportunity to gain positive feedback loops, triggering faster growth in consumer loyalty (Gupta et al., 2023).

Interfaces. Interfaces are filtering and matching processes, that is, how external attributes (SCALE) are transformed into internal control frameworks (IDEAS); interfaces are geared toward filtering and shaping (Kecht et al., 2023).

Dashboards (Control Panels). Dashboards allow an organization to manage itself. For example, an organization could implement a real-time adaptive dashboard with all essential company and employee variables accessible to everyone.

Experimentation (Culture of Experimentation). Keep processes aligned with rapidly changing externalities. It is a lot about allowing failure to improve and iterate even more in product or service innovation; experimentation maximizes value creation and drives a mindset that controlled risks can offer an advantage and faster learning.

Autonomy. Self-organized, multidisciplinary teams that operate with decentralized authority. For example, the company hires innovative and talented initiators who decide which projects to join and are encouraged to start new projects. The benefits of this model include greater agility, greater accountability to the customer, faster reaction, learning times, and higher morale.

Social (Social Tools) refers to social technologies, given that workplaces are increasingly digitalized. Social technologies create fertile ground for cooperation and efficient feedback loops, allowing for faster conversations, decision-making cycles, accelerated learning, and team stabilization during rapid growth.

Not all ExOs have all ten attributes, but the more they have, the more scalable they tend to be. According to Ismail et al. (2014), presenting at least four attributes turns the organization into an ExO, contributing to its acceleration. More than an explanation, exponential organizations are a mindset, a choice that companies make to become more competitive and survive in the long term (Margherita et al., 2020). Furthermore, while traditional organizations tend to be hierarchical, centralized, and closed while operating around an ownership model based on scarcity (of people, resources, assets, platforms, etc.), exponential organizations embrace and take advantage of openness, transparency, and abundance; ExOs focus outward and not inward, which gives them an advantage over other companies (Diamandis & Kotler, 2015).

The Massive Transformative Purpose

To understand the model of an exponential organization, it is necessary to highlight the pillar that supports and serves as the compass of the organization: the massive transformative purpose, which is defined as the most significant intention to which the company aspires and is distinguished from the mission of the organization for being highly ambitious; they aim to capture the hearts, minds, imaginations and ambitions of those inside and especially outside the organization; some aim to transform the planet, others just a sector, but radical transformation is the key (Ismail et al., 2014).

Dieffenbacher (2024) states that most professionals understand the mission statement and core business activity concepts. However, the MTP takes these elements several steps further by using them as a significant point for generating innovation and motivation (Zhang & Chun, 2023). It is worth highlighting that organizations that work behind an MTP are not only pursuing success; they want historical developments that positively impact people globally. (Table 1)

Table 1. Example of MTPs

Organization	MTP
TED	Ideas worth spreading
Google	Organize the world´s information
Boston Children´s Hospital	Until every child is well
Quirky	Make invention accessible
Word Top 20 Project	Educate every child on the planet

Source: Own elaboration.

Regarding the relevance of the Massive Transformative Purpose in innovation, Palao (2022) presented a platform developed from global challenges and solutions to problems guided by a purpose called *Purpose Launchpad*. This framework, where the purpose serves as the north star that directs each of the initiatives, can be used as a guide to give structure to organizations, products, and services to empower them and create a better world, that is, one that does not only solve a problem or need in the market but also has a positive impact worldwide. This methodology has at its core a superior reason that helps organizations create purposeful initiatives, helping them to be sustainable for the environment in a responsible manner and allowing their impact and reach to be more significant. According to Palao (2022), developing innovations that have a positive impact does not have to do with technology and its use but with the mentality with which things are done, which is why the Purpose Launchpad is a tool that helps create that mindset to be purpose-driven innovators.

Culture of Experimentation

As previously established, it is impossible to deny the close link between exponential organizations and the culture of experimentation. However, it is not in vain that one of the

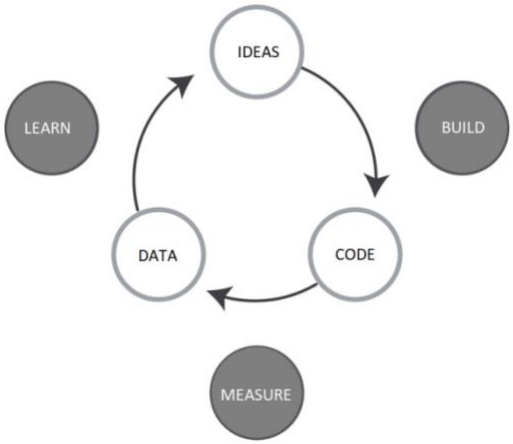
elements of the ExO model created by Ismail et al. (2014) is precisely experimentation. Furthermore, since the ExO model is intricately linked to the theories of *Customer Development, Design Thinking, and Lean Startup*, in which its creators position experimentation as a fundamental part of their models, the culture of experimentation takes on a leading role in generating innovation within organizations.

According to Seelos and Mair (2012), innovation as experimentation can be a more important mechanism for progress, so they insist that organizations must manage innovation as a process rather than a result. Although the error rate of this type of innovation is high, experimentation that leads to innovation failures can gradually improve an organization's understanding of how a particular environment works.

For Ismail et al. (2014), experimentation, as an attribute of the ExO model, is defined as implementing Ries's (2012) Lean Startup methodology of testing hypotheses and continuously experimenting with controlled risks. According to the authors and this perspective, the experimentation of new ideas and the iteration of processes currently represent the only way to reduce risks in business, promoting the generation and development of ideas from the bottom up in the organization, and where the best business ideas are those that are developed regardless of who proposed them. This practice contradicts the traditional "waterfall" approach to new product development used today by most companies. It follows sequential steps such as idea generation, concept screening, product design, development, and commercialization. According to Ismail et al. (2014), this process requires a significant amount of time and investment, which usually results in products that do not fit the current customer needs due to constant market change.

In contrast, under the same scenario, the organization first investigates the customer's needs using the Lean Startup methodology. Then, experiments are conducted to determine whether the proposed product fits them. This provides quantitative and qualitative evidence that helps obtain a conclusion (Figure 2).

Figure 2. The build-measure-learn feedback loop.



Source: Ries (2012).

This methodology allows us to determine in just a couple of weeks or months whether a product or business idea is destined for success or failure at a minimum cost (Ismail et al., 2014).

In this regard, Smith & McKeen (2003) propose the following recommendations to begin experimentation in organizations:

1. **Provide space and time for experimentation**. Experimental thinking uses a different type of intellectual capacity that requires a disconnection from usual tasks and activities, so organizations that wish to promote a culture of experimentation must provide appropriate places and spaces for people to take time away from their daily activities to think, interact, contrast ideas and design experiments (Berman & Marshall, 2014; Ajayi & Udeh, 2024).

2. **Use multifunctional teams.** Internal cross-functional experimental teams can sow the seeds of change in broad organizational cultures, helping them learn from failures and become comfortable with uncertainty; some experiments should even include customer participation.

3. **Establish new ways of financing and governing experiments.** Experimentation cannot and should not compete with other IT projects, so organizations must develop quick and effective ways to commit, fund, and terminate an experiment.

4. **Reduce known unknowns (things we know we do not know)**. The key to a practical experiment is to reduce the known unknowns by focusing on what can be done with greater certainty, such as results, processes, communication, objectives, vision, and requirements (Kane et al., 2015).

5. **Rethink the role of failure**. Celebrating failure and what has been learned is essential to developing a culture of experimentation, so leaders must talk openly about failures

and then implement what they learn in future experiments. This is the best way to keep new ideas and innovations flowing (Smith & McKeen, 2003).

6. **6. Build on what you learned.** Although not all experiments prove their hypotheses successfully, all should inform strategy. The key is to learn from the results and then pivot; consider experiments as a journey and not as a road map; that is, learn and then adjust (Smith & McKeen, 2003).

Correspondingly, for Berman and Marshall (2014), experimentation in business is a strategy to reduce uncertainty and deal with disruption. There are many reasons to conduct experiments, including testing hypotheses, validating assumptions, and reducing uncertainty. For Thomke & Manzi (2014), the key is to have clarity about what is being tested and what the organization wants to learn to design the appropriate experiments and that this culture emanates directly from the most experienced leaders, who will provide the resources, the guidelines and structure for experimentation (Browning & Ramasesh, 2015). At the organizational level, fostering a culture of experimentation, encouraging cross-functional collaboration, and establishing flexible structures are highlighted as critical success factors (Addy et al., 2024).

According to Thomke (2020), in his article titled "Building a Culture of Experimentation," published by the Harvard Business Review, the main obstacle to companies not experimenting is not the absence of tools or technology but the culture, that is, shared behaviors, beliefs, and values. For every experiment that succeeds, almost ten do not, and in the eyes of many organizations, succeeding after so many failures is a waste of time. Therefore, the author proposes a series of attributes that organizations must implement to make experimentation an integral part of daily activities, which are described below:

1. Cultivate curiosity. Everyone in the organization must value surprises despite the difficulty of attributing costs and the impossibility of predicting when and how they will occur. When companies adopt this mindset, curiosity will prevail, and people will perceive failures not as costly mistakes but as learning opportunities. (Li et al., 2023)

2. Insist that data outweigh opinions. Empirical results from online experiments must prevail even when they clash with solid opinions, regardless of who these opinions come from. (Riesthuis & Woods, 2024)

3. Democratize experimentation. Anyone in the organization, not just people in Research and Development (R&D), should be able to run experiments to test any new idea to improve the business; this involves giving teams the autonomy they need to try new approaches that they consider can add value and facilitating a system that

allows running, monitoring, and providing real-time feedback on experiments. (Santos, 2023)

4. Be ethically sensitive. When planning new experiments, organizations should carefully analyze whether users might consider the tests unethical. While the answer is only sometimes clear, organizations that fail to delve deeper into this point risk provoking a backlash. (Abdulqade et al., 2024)

5. Adopt a different leadership model. More experienced leaders should set challenges that can be broken down into testable hypotheses and critical performance metrics. They must also secure systems and resources that facilitate large-scale experimentation, live by the same rules as everyone else, and put their ideas to the test. Ultimately, being a leader in an experimentation-driven organization means letting go and empowering employees to do their testing. (Boeske, 2023).

It is essential to emphasize that leadership is critical in encouraging experimentation within organizations. According to Hussain (2024), leaders in the organization play a decisive role in driving cultural transformation by promoting a culture of experimentation and learning, fostering a digital mindset, and empowering employees to embrace new technologies. By creating an environment where employees feel empowered to contribute innovative ideas, leaders ensure that their organizations remain dynamic and responsive to changes in market dynamics (Agustian et al., 2023).

In this sense, entrepreneurial leadership emerges as a critical driver of innovation, resulting from a unique combination of visionary thinking, risk-taking propensity, adaptability, and resilience that enables individuals to navigate and thrive in dynamic business environments (Ishak et al., 2021); these types of leaders demonstrate a keen sense of foresight, are not afraid of calculated risks, and possess the ability to adapt quickly to changing circumstances (Groves & Feyerherm, 2022).

Autonomy

Although there has yet to be a consensus on the definition of organizational autonomy, and the concept needs to be more specific and cohesive at the conceptual level (Arregle et al., 2023), the definition proposed by the authors of exponential organizations will be used for this study. Autonomy is one of the critical elements in the ExO model, and Ismail et al. (2014) define it as self-organized and multidisciplinary teams that operate with decentralized authority. According to the authors, much of the success of the experiments lies in relying on small, independent, and multidisciplinary teams to build new businesses from the idea phase to commercialization.

The benefits of this model include greater agility, greater accountability to the customer, faster reaction and learning times, and higher morale (Ismail et al., 2014). This is consistent

with the studies by Moalagh et al. (2023) on agile methodologies, which highlight that implementing agile methods, commonly used in technology and software development companies, often increases team autonomy and flexibility while raising organizational demands for agility and efficiency.

According to Thomke (2020), to successfully generate a culture of experimentation, it is essential to create an environment where the curiosity of employees is cultivated, where data outweighs opinions, where anyone (not only R&D) can carry out a test, where all experiments are carried out ethically, and managers adopt a new leadership model. According to the author, the main obstacle why companies do not conduct experiments is not the absence of tools or technology but culture, that is, shared behaviors, beliefs, and values (Thomke, 2020); this is where autonomy becomes highly relevant in the implementation and execution of experiments.

One of the most transparent and compelling examples of how autonomy and experimentation are linked was presented by Thomke (2020), who described the strategies implemented by the digital giant Booking.com, which, after running twenty-five thousand experiments per year, went from being a small startup to the most prominent travel platform in the world. The experiment that changed everything for this company consisted of testing a new version of the Home Page, where instead of offering multiple options for hotels, vacations, and travel discounts (as they always did), this new page would only show a small window asking the user about their destination, travel date and several people traveling, with only three simple options to choose from: hotels, flights, and car rental. This experiment was only possible because if it had not been done, it would have violated one of the fundamental principles of Booking.com, which is that anyone in the organization can try anything without permission from management.

METHODOLOGICAL DESIGN

This quantitative nonexperimental research was conducted using convenience sampling of 41 IT companies in Jalisco, Mexico; the questionnaire was applied to decision makers (directors, managers, and heads of departments) of HR, IT, R&D, Administration, and Sales, who are responsible for planning, structuring, and executing strategies at the corporate level, as well as invariably participating in the construction of culture within an organization. The questionnaire was validated by applying a pilot test to measure the relationship between the culture of experimentation, autonomy, and the purpose of massive transformation.

It was decided to study IT companies (mostly companies that generate innovation) since their profile turns out to be a breeding ground for experimental practices by taking advantage of

the technology they market that is within their reach to optimize their operations and positively impact their environment. Likewise, IT companies are the spearheads and set the example for businesses in other industries, and they are responsible for bringing innovation to all segments.

The questionnaire was applied individually to decision-makers who work in the selected companies through a phone call between November 17 and December 7, 2021. The list of IT companies was obtained from a database on the National Statistical Directory of Economic Units portal of INEGI (2018). In addition, this list was completed with companies found on LinkedIn and in IT directories in Jalisco to accomplish the number of surveys proposed for this research and the limited access to the study subject (decision makers within the organization). The final database was made up of 41 enterprises, of which 27 entities correspond to medium-sized companies, which are detailed below (Table 2):

Table 2. Name of medium-sized enterprises that were considered for the study.

Company name	Industry	Scope
Desarrollos Eslabon Systems	HR solutions	National
Gbnetworks	Ecommerce	Local
Itexico Services Medico Net	Semiconductors & Components	Local
Ecosa	Artificial intelligence	National
Karaokulta Amber Kao	Software	National
Seguridad y Control	Consultancy	National
Epam Systems	Software	National
Assetel	Software	International
Moduslink	Ecommerce	National
Sanmina	Hardware	National
Accend Consulting	Consultancy	National
IBM	Networks & telecommunications	International
Global Fleet	Semiconductors & Components	International
Atalaya Systems	Communication technologies	International
Visuel Sistems	Video games	International
Avnet	Software	International
Teratronix	Ecommerce	National
Avansys	Cybersecurity	International
Estrasol	Software	National
Technology & Performance	Software	International
Toshiba	Software	National
Improving	Software	International
AstraZeneca	Pharmaceutical	International
121 (One Twenty-One)	Digital Advertising	International
Sisa Consultores	Consultancy	National
Kire Informática SA de CV	Software	International

Inbest	Software	National

Source: Own elaboration.

Regarding large enterprises, the database comprised 14 entities, which are detailed in Table 3. The scale was developed from the questionnaire to Calculate the Exponential Quotient of an Organization (Ismail et al., 2014). It was completed with information obtained from the reports on Digital Coming of Age and Accelerating Digital Innovation (Kane et al., 2018, 2019) published by MIT Sloan Management Review and Deloitte, from where different items were selected, adapted, and transformed to measure each of the variables proposed in the model of this study.

Table 3. Name of large enterprises that were considered for the study.

Company name	Industry	Scope
Contpaqi	Networks & telecommunications	National
Ho1a Innovación	Development	National
Izzi	Networks & telecommunications	International
Sky	Consultancy	International
Oracle	Networks & telecommunications	International
Sumitomo Electric Industriales	Software	International
Oracle de México	Semiconductors & Components	National
Tata Consultancy Services de México	Consultancy	International
Ikor	Consultancy	International
Advanced Technology	Ecommerce	National
Pegasus Control	Software	International
Kpmg	Audit service	International
Gopac Soluciones Integrales SA de CV	Consultancy	International
Hostime	Software	International

Source: Own elaboration.

The questionnaire was made up of a total of 15 items on a 5-point Likert scale, where (1) is Completely Disagree, (2) Disagree, (3) Neither Agree nor Disagree, (4) Agree, and (5) agree. The study subjects responded by assessing their agreement or disagreement with each of the items that make up the scale. The scores the subjects gave to the items reflect whether they present positive attitudes towards a culture of experimentation, autonomy, and a massive transformative purpose within their organizations. The 15 items were expressed positively; therefore, a high score (greater than 3) would indicate favorable attitudes or beliefs in each area. See Table 4 for the complete list of questionnaire items.

Table 4. Questionnaire items and source

Variable	Questionnaire items	Source

Culture of Experimentation	In my organization, tests or experiments are constantly carried out to validate new products and/or services.	Ismail et al. (2014😉 Ajayi & Udeh (2024)
	In my organization, sessions are held in which many employees participate by contributing ideas about new products or services to offer.	
	In my organization we could conduct experiments to validate new business ideas.	Kane et al. (2019); Ajayi & Udeh (2024)
	In my organization, a specific budget or resources have been designated to generate innovation.	
	In my organization, leaders share the results of tests or experiments with everyone involved to promote our learning.	Kane et al. (2018)
	In my organization, the acceptance that a new business, product or service idea will have is measured before its formal launch to the market.	Own elaboration
	In my organization, new ideas are encouraged to be shared and evaluated by all Departments of the company.	Kane et al. (2018)
Autonomy	The Departments are structured as small self-organizing teams. Departments can make key decisions independently, that is, decisions are decentralized.	Ismail et al. (2014)
	Each Department leader has considerable autonomy regarding how to achieve the team's goals.	Kane et al. (2019)
	The autonomy of each Department is influenced by the purpose, mission and values that my organization has.	Own elaboration
Massive Transformative Purpose	My organization's Mission goes beyond serving customers; The goal is to bring positive change to our entire ecosystem of suppliers, partners, shareholders and collaborators.	Ismail et al. (2014)
	The purpose of my organization goes beyond a simple Mission, that is, it seeks to create a positive impact on our society.	
	The strategic purpose of my organization goes beyond economic profit.	Kane et al. (2019)
	There is a strategic identity rooted in a greater purpose, inspiring and with values.	

Source: Own elaboration.

Problem Statement

After an exhaustive review of the published literature on exponential organizations (Ismail et al., 2014), the culture of experimentation (Smith & McKeen, 2003.; Thomke, 2020), and as mentioned in the introduction of this research, the relationship between exponential organizations and culture of experimentation already exists, as experimentation is indeed one of the critical attributes of the ExO model. However, due to the relevance of massive transformative purpose as the guiding axis of the ExO model, the intention arises to link it to the culture of experimentation phenomenon and determine whether it is related to the autonomy of teams and collaborators. Therefore, the central question that guided this

research was: Could the massive transformative purpose moderate the relationship between the culture of experimentation and autonomy in medium and large IT companies in Jalisco?

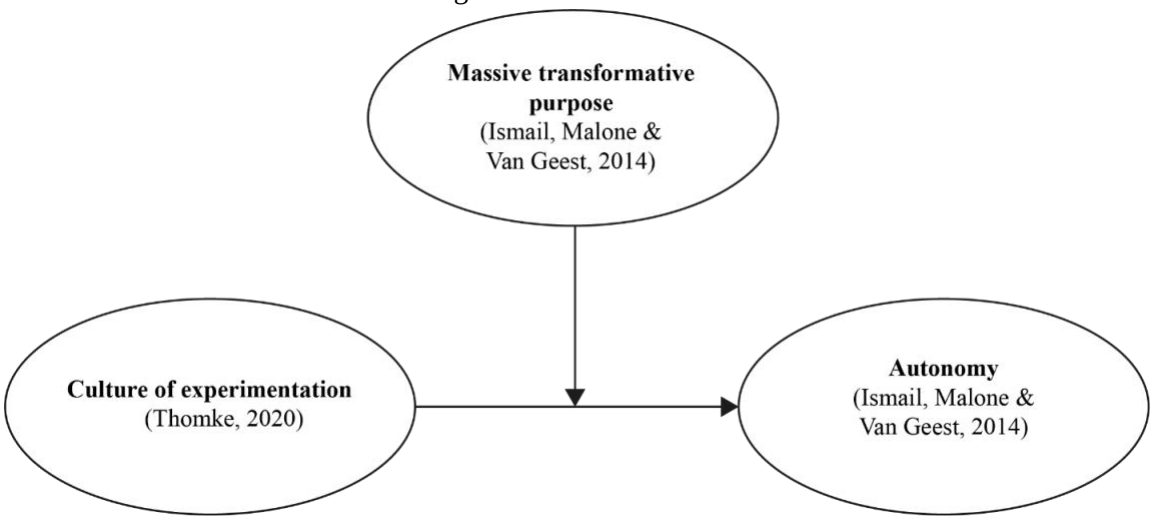
Research Objectives

This research sought to measure the relationship between the culture of experimentation and autonomy and the moderating effects of the massive transformative purpose to adjust the relationship between both variables in medium and large IT enterprises in Jalisco. The specific objectives emerge from the general objective and aim to establish the following:

1. Determine the relationship between the culture of experimentation and autonomy in medium and large IT companies in Jalisco.
2. Analyze the relationship between the culture of experimentation and autonomy moderated by a massive transformative purpose in Jalisco's medium and large IT companies.

For this research, a culture of experimentation moderated by a massive transformative purpose model was designed based on the publications of Ismail et al. (2014) and Thomke (2020), which is presented below (Figure 3):

Figure 3. Variable model



Source: Own elaboration.

Hypothesis

According to the ExO model proposed by Ismail et al. (2014) and Thomke's (2020) publications on the culture of experimentation in organizations, where autonomy can be perceived as the link between both phenomena, this research suggests that the massive transformative purpose could play a role as a moderating variable to adjust the relationship between the culture of experimentation (independent variable) and the autonomy (dependent variable), such that:

H1. The culture of experimentation is positively related to the autonomy of teams and collaborators.
H2. The massive transformative purpose positively affects the relationship between the culture of experimentation and the autonomy of teams and collaborators.

Collection and processing of information

The instrument's reliability was evaluated through an inter-item reliability analysis with Cronbach's Alpha test, as a single instrument and separately, and the KMO test. Subsequently, the relationships between the variables that make up the scale were examined using the Pearson correlation coefficient.

A moderation analysis was conducted to establish the degree of moderation of the variable massive transformative purpose (moderator) and to adjust the relationship between the culture of experimentation (independent variable) and autonomy (dependent variable). Finally, a contrast analysis was conducted for the variables with the t statistic to determine whether the null hypothesis was rejected or accepted. The tables and graphs presented below were extracted from the data analysis conducted in SPSS version 23.

RESULTS

The reliability analysis of the 15 items of the scale provided a value of α = .946. Table 5 summarizes the results obtained from the validity and reliability analysis of the instrument by subscale. Consequently, the scale was composed of 15 items that measure the phenomenon of culture of experimentation, autonomy, and massive transformative purpose in organizations.

Table 5. Validity and reliability analysis of the instrument.

Subscale	items	Cronbach's alpha	KMO	Bartlett's test of sphericity (p value)	Communality	Total variance explained
Culture of experimentation (CEXP)	CEXP_1	0.919	.805	Chi squared 88.458 df 21 p-value 0.000	.670	71.313
	CEXP_2				.736	
	CEXP_3				.702	
	CEXP_4				.624	
	CEXP_5				.752	
	CEXP_6				.750	
	CEXP_7				.758	
Autonomy (AUT)	AUT_8	0.887	.664	Chi squared 79.864	.637	79.265
	AUT_9				.847	

	AUT_10			df 6	.830	
	AUT+MTP_11			p-value 0.000	.856	
Massive transformative purpose (MTP)	MTP_12	0.964	.764	Chi squared 87.287	.939	90.245
	MTP_13				.912	
	MTP_14			df 6	.782	
	MTP_15			p-value 0.000	.976	

Source: Own elaboration.

Level of correlation between variables

The hypotheses of the relationship between the variables were analyzed through the Pearson correlation coefficient, calculated from the scores in a sample of two variables (Yu & Hutson, 2024). This coefficient is also known as the sample correlation coefficient, and through this test, it is possible to determine the degree of correlation of the association of two variables (Anderson et al., 2012). The Pearson correlation coefficient can range from −1.00 to +1.0, where −1.00 indicates a perfect negative correlation, and +1.00 is a perfect positive correlation. The sign indicates the direction of the correlation, which can be positive or negative, and the number indicates its magnitude. (Yu & Hutson, 2024)

Table 6 shows all the correlations between the three variables considered in the study. If s or P (significance value) is less than 0.05, the coefficient is said to be significant at the 0.05 level (95% confidence level); if it is less than 0.01, the coefficient is significant at the 0.01 level (99% confidence level). (Johnson, 1999).

Table 6. Pearson correlation matrix

		CEXP	AUT	MTP
Culture of experimentation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	41		
Autonomy	Pearson Correlation	.519**	1	
	Sig. (2-tailed)	.001		
	N	41	41	
Massive transformative purpose	Pearson Correlation	.520**	.804**	1
	Sig. (2-tailed)	.000	.000	
	N	41	41	41

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Own elaboration.

Based on the correlation results in Table 6, whose correlation coefficients range from -1 to +1, the relationships proposed in the research hypotheses are described below:

1. To respond to the first hypothesis that attempts to determine if there is a relationship between the culture of experimentation and autonomy, based on the previously exposed parameters and the results of the correlation (.519), it is a moderate positive correlation. That is to say, the greater the level of culture of experimentation, the greater the level of autonomy. It is also a significant correlation given its value of .001, less than 0.05. That is, it is considered a 95% confidence level that the correlation is actual and a 5% error probability.

It should be noted that although it is not part of this study's hypotheses to assess the relationship between MTP and autonomy since their relationship is assumed from the literature consulted and the ExO model proposed by Ismail et al. (2014), this presents the strongest degree of correlation (.804) in the proposed model.

Moderation Analysis

A moderation analysis was conducted to answer the second hypothesis proposed in this research and to measure the degree of moderation of the MTP variable (moderator variable) to adjust the relationship between independent and dependent variables. This multivariate analysis is carried out when an independent variable predicts a dependent variable, taking into consideration the causal force of a third variable, called the moderator variable, which interacts between both (Kenny, 2015); along this line, the moderating variable affects the strength and direction in the relationship between the predictor variable and the output variable (Fairchild & MacKinnon, 2009).

The technique used to analyze the moderation effects, considering that the variables are quantitative, was the hierarchical regression analysis through a conventional multiple regression analysis. In this analysis, an independent variable, the moderating variable, and a third variable constructed by combining both values are considered, basically the interaction effect. The linear regression test, its ANOVA models, and model coefficients are presented below.

Multiple Regression Model for Autonomy

Table 7 presents the results of the multiple regression model using autonomy as the dependent variable, culture of experimentation as the independent variable, massive transformation purpose (MTP) as the moderating variable, and to determine the interaction effect. This variable is the product of a culture of experimentation and MTP.

Table 7. Multiple regression model of autonomy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813[a]	.661	.633	2.173	1.993

a. Predictors: (Constant), Culture of Experimentation x Massive Transformative Purpose, Zscore: Culture of Experimentation, Zscore: Massive Transformative Purpose
b. Dependent Variable: Autonomy

Source: Own elaboration.

As seen in the model, the R-value indicates a considerable correlation of .813 independent variables on autonomy. Also, the coefficient of determination R2=.661 indicates that the independent variables explain 66.1% of the autonomy. Furthermore, the Durbin-Watson 1993 statistic indicates no interdependence between the variables' residuals. (Table 8)

Table 8. Anova of the autonomy regression model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	340.284	3	113.428	24.018	.000[b]
	Residual	174.740	37	4.723		
	Total	515.024	40			

a. Dependent Variable: Autonomy
b. Predictors: (Constant), Culture of Experimentation x Massive Transformative Purpose, Zscore: Culture of Experimentation, Zscore: Massive Transformative Purpose

Source: Own elaboration.

Regarding the ANOVA analysis, the model is significant because the F statistic (24.018) has a significance value of .000, less than 0.05, meaning that the resulting information can be generalized to the study population.

Table 9. Regression analysis coefficient of autonomy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	14.729	.382		38.550	.000		
	Zscore: Culture of Experimentation	.499	.403	.139	1.239	.223	.728	1.373
	Zscore: Massive Transformative Purpose	2.652	.412	.739	6.441	.000	.696	1.436
	Culture of Experimentation x Massive	.101	.346	.029	.293	.771	.930	1.075

Transformative Purpose	

a. Dependent Variable: Autonomy

Source: Own elaboration.

As for the coefficients, results indicate that the variables culture of experimentation and culture of experimentation x MTP are unrelated to autonomy since their significance is more significant than 0.05. The variable that contributes the most to the autonomy model is MTP, with a beta value of .739. Likewise, given the value in the t statistic = 6.441 and a significance level of .000, less than 0.05, the result is significant, and the econometric model is valid. (Table 9)

Concerning moderation, the results indicate that the levels of a culture of experimentation combined with the levels of MTP provide the model with a beta value (0.29) in the t statistic = .293 and a significance level of 771 greater than 0.05, which indicates that the result is not significant. In other words, there is no interaction between the culture of experimentation and the MTP, and the related set of both does not generate a change in the levels of autonomy, rejecting hypothesis 2 of this study.

CONCLUSIONS

To have a deeper understanding of the conclusions presented here, it is crucial to highlight that the concept of exponential organizations, and consequently the ExO model and its attributes, and how these can be combined to impact the generation of innovation within a company, is still in an early stage and requires a theoretical foundation. As pointed out by Mohout and Kiemen (2018), it is not easy to connect the literature on exponential organizations with the literature on organizational strategy, and it is a fact that the concept of ExOs has been overlooked by the academic literature (Marchese et al., 2022). Furthermore, the authors of the exponential organization themselves argue that its main objective is not to generate theory but to offer a guide on creating and maintaining an exponential organization for companies that seek competitiveness in today's fast-paced and changing environments (Ismail et al., 2014).

It is important to emphasize that this is the first approach to the phenomenon of ExOs and the culture of experimentation in Mexico. As an exploratory study, the purpose was never to make a diagnosis but rather to recover these variables and measure whether adequate conditions exist for implementing these innovative business management strategies.

Based on the results, it is possible to realize the proximity that exists in medium and large IT companies in Jalisco to operate under this innovation approach, where the conditions and

practices related to building a culture of experimentation already exist, where team autonomy is promoted and where employees are motivated by a philosophy similar to a massive transformative purpose. It should also be noted that few organizations in Mexico operate under the ExO model and are driven by a strong MTP. Therefore, several assumptions were considered solely to determine how close or far they are from the phenomenon or their potential to operate under this philosophy.

Once this has been clarified and based on the theory compiled for this research, where it is argued that autonomy is a crucial characteristic in exponential organizations and described as self-organizing multidisciplinary teams that operate with decentralized authority (Ismail et al., 2014) to the attributes described by Thomke (2020) about democratizing experimentation in organizations by giving teams the autonomy they need to try new approaches that can add value and facilitate experimentation; and according to the result of the Pearson correlations (r) to test the association between variables, it was found that the factors culture of experimentation and autonomy present a positive and significant relationship. From the above, it can be concluded that the higher the culture of experimentation within the organization, the greater the levels of autonomy will be, which allows the validation of hypothesis 1 presented in this study.

As for the second objective of this research, taking into consideration that the MTP is the backbone of exponential organizations, differentiating itself from the company's mission by aiming to capture the hearts, minds, imagination, and ambitions of those inside and outside the organization (Ismail et al., 2014); to the *Purpose Launchpad* framework proposed by Palao (2022), which suggests that the purpose should serve as a north star to direct the organization's initiatives, where it not only solves a problem or need in the market but also has a positive impact on the world; and the statistical tests carried out, first through a correlation and subsequently through a linear regression, which allowed us to determine the degree of moderation of the variable MTP (moderator variable) to adjust the relationship between culture of experimentation and autonomy through the F and t statistics, the results showed that there are no significant relationships.

This allows us to conclude that there is no interaction between the culture of experimentation and the MTP, and the related set of both does not generate a change in the levels of autonomy, rejecting hypothesis 2 of this research. A possible explanation for these results could be the lack of clarity about the concept of the MTP in the organizations studied; it is a relatively new concept and is strongly linked to the concept of exponential organizations rather than to the culture of experimentation, where no reference is made to this concept or to the importance for the organization of transcending and having a positive impact in the world.

It is also important to note that it is not possible to generalize the conclusions presented here to the entire population since the size of the sample to which we had access (41 individuals) was a convenience sample and does not cover the total number of large and medium-sized companies published in the DENUE database. Furthermore, as described in the methodology section of this research and because the surveys were applied during the COVID-19 pandemic, it was necessary to include other companies not considered in the original database to conclude the study within the defined times so a certain degree of bias in the results is assumed.

Another limitation from the statistical point of view is that, given the exploratory nature of this study, the assumptions of normality, linearity, independence of the error terms, and equality of variances were assumed (Hair et al., 1999) necessary for the use of parametric tests and the application of multiple linear regression. Therefore, greater statistical rigor in the data is recommended, such as the verification of the assumptions of the multivariate analysis involved in the process of estimation and interpretation of results, which will allow a more precise forecast of the results in some variables based on others, as well as better-fitting mathematical expressions.

It is worth mentioning that the results presented here are taken as preliminary, recommending explanatory and descriptive studies to deeply understand the critical factors involved in a culture of experimentation model. It is also recommended for future research to consider other factors of the ExO model, such as *algorithms, engagement, interfaces, dashboards, and social tools,* to determine to what extent they are related to a culture of experimentation when moderated by the MTP.

Furthermore, the information presented in this research contributes to expanding knowledge about the culture of experimentation, exponential organizations, and the factors involved in both phenomena, as well as to generating new lines of research since there is little published information (both theoretical and empirical) on these concepts due to their recent emergence. In addition, this research is precious for any organization. Its leaders seek to successfully implement or reinforce the culture of experimentation because it is not limited solely and exclusively to tech companies or organizations. However, one of the purposes of testing this empirical model is that it can be implemented by any organization, regardless of the industry and its size.

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